

Claims

1. Method for determining seat comfort, especially as perceived by a person, of a seat cushion bearing a sitter, especially of the perceived softness of a car seat when a person sits down on it, characterized by measuring the pressure distribution over the seat surface by means of a pressure sensing system; measuring the actual deformation of the seat surface by means of a depth or deformation sensing system; and computing a value of the seat comfort as it is occupied on the basis of the measured, actual deformation of the seat cushion and the measured pressure distribution of the seat upholstery.
2. Method according to claim 1, characterized by computing a softness matrix value  $D$  of the seat comfort from a measured pressure distribution matrix  $F$  and a measured deformation matrix  $X$  of seat upholstery in relation to the surface of the seat.
3. Method according to claim 2, characterized by display of the computed seat comfort rating in a three-dimensional representation as a multi-dimensional elasticity matrix over the seat surface of a seat upholstery.
4. Method according to one of the foregoing claims, characterized by using a first measuring mat having a multiplicity of measuring sensors of the size of the seat surface to measure the pressure distribution and by subsequent use of a second measuring mat for measuring the seat surface deformation, the first and the second measuring mat having substantially the same number of points of measurement and being positioned as a layer.
5. Method according to any one of the foregoing claims, characterized by measuring the deformation of the seat contour by forming a difference from a matrix value of a three-dimensional imaging of the seat surface in the unoccupied case and from a matrix value of a three-dimensional imaging of the upper surface of the seat upon its initial occupation.
6. Apparatus for determining seat comfort, especially the seat comfort perceived by a person upon sitting down in a seat cushion, especially a motor vehicle seat, with a pressure sensing system for measuring the pressure distribution on the seat surface, characterized in that a deformation sensory system for measuring the actual deformation of the seat

surface, and an evaluation unit for computing the seat comfort from the measured pressure distribution and the measured deformation of the seat surface are provided.

7. Apparatus according to claim 6, characterized in that the pressure sensing system is provided in the form of a first measuring mat which can be fastened on the seat surface, and that the deformation sensing system is provided in the form of a second measuring mat which can be fastened on the seat surface, and which, after a sitting down the deformation of the seat surface can be retained.
8. Apparatus according to either one of claims 6 or 7, characterized in that the evaluation unit has a calculating means for performing the matrix calculations.
9. Apparatus according to any one of claims 6 to 8, characterized in that an output and display unit is provided, by means of which three-dimensional measured value and result matrices can be represented.
10. Apparatus according to any one of claims 6 to 9, characterized in that means are provided for acting upon a seat surface with a pressure application and distribution corresponding to the sitting down of a person.